

Message Text

UNCLASSIFIED

PAGE 01 PONTA 00351 131753Z

70

ACTION EUR-12

INFO OCT-01 ARA-10 EA-09 ISO-00 ACDA-10 CEQ-01 CIAE-00

DOT-00 EPA-04 HEW-06 HUD-02 INR-07 INT-05 L-03

NSAE-00 NSC-05 NSF-02 OIC-02 PA-02 PM-04 PRS-01

SAJ-01 OES-05 SP-02 SS-15 TRSE-00 USIA-15 FEA-01 /125 W

----- 096376

R 122345Z SEPT 75

FM AMCONSUL PONTA DELGADA

TO SECSTATE WASHDC 1275

AMEMBASSY BELGRADE

AMEMBASSY MANAGUA

AMEMBASSY TOKYO

ALL NATO CAPITALS

INFO USOECD PARIS

UNCLAS PONTA DELGADA 351 SECTION 1 OF 2

DEPT PASS ALL NATO CAPITALS

E.O.11652; N/A

TAGS : CCMS, ENRG

SUBJECT : CCMS; SMALL GEOTHERMAL POWER PLANTS WORKSHOP

SAO MIGUEL, THE AZORES, SEPT. 8-11, 1975

SUMMARY:

DELEGATES FROM FRANCE, NICARAGUA, PORTUGAL, AND THE UNITED STATES, AND INDIVIDUAL EXPERTS FROM JAPAN, THE UK, AND YUGOSLAVIA MET AT FURNAS, SAO MIGUEL, THE AZORES FOR A 4 DAYS WORKSHOP ON SMALL GEOTHERMAL POWER PLANTS, SEPT. 8-11, 1975. THE WORKSHOP WAS THE SECOND IN A 2 MEETING SERIES CO-SPONSORED BY PORTUGAL AND US UNDER NATO/CCMS. IT CONSISTED OF TWO DAYS OF MEETINGS AND TWO DAYS OF VISITS

TO GEOTHERMAL SITES IN EASTERN AND WESTERN SAO MIGUEL. PARTICIPANTS WERE WELCOMED TO THE AZORES BY MILITARY GOVERNOR GENERAL MAGALHAES.

THEY APPROVED STATMENTS INDICATING THE DESIRABILITY OF DRAFTING BASIC DESIGN CRITERIA FOR A SMALL GEOTHERMAL POWER PLANT, AND THEIR BELIEF IN THE EXISTENCE OF INTEREST IN AN ANNOUNCED EXPERIMENTAL GEOTHERMAL

UNCLASSIFIED

UNCLASSIFIED

PAGE 02 PONTA 00351 131753Z

LABORATORY IN THE AZORES (TEXT SENT SEPTTEL) . THE MAJORITY OF
DELAGATES

FGLLOWED THE WORKSHOP WITH THE POST-CONFERENCE TOUR TO
GEOTHERMAL
SITES ON FAIAL AND PICO. END SUMMARY

1. THE FIRST DAY'S MEETING WAS OPENED BY DR. VICTOR H. FORJAZ
(PORTUGAL), WHO SPOKE ABOUT THE GEOTHERMAL POTENTIAL OF THE AZORES.
DR. TSVI MEIDAV (USA) DESCRIBED THE ECONOMIC BENEFITS OF DEVELOPMENT

OF GEOTHERMAL ENERGY, USING THE CASE OF SAO MIGUEL AS AN EXAMPLE:
MEIDAV ESTIMATED THAT 2 MILLION DOLLARS PER YEAR IN FUEL COSTS COULD
BE SAVED BY EXPLGRING SAO MIGUEL GEOTHERMAL RESOURCES IN PLACE OF
IMPORTED DIESEL FUEL. MEIDAV NOTED THAT THIS LOWER COST ENERGY MAY
BE THE AZORES' MOST IMPORTANT NATURAL RESOURCE.USE OF THAT
RESOURCE,
INCLUDING DIRECT APPLICATION OF WASTE HEAT IN INDUSTRIAL PROCESSES,
COULD FURTHER REDUCE THE COST OF GEOTHERMAL-GENARATED
ELECTRICITY.

DR. JAMES KUWADA (USA) PRESENTED THE CONCEPTUAL DESIGN FOR A SMALL
(2-5 MW) WELL HEAD LOCATED GEOTHERMAL STEAM POWER
PLANT.ADVANTAGES
INCLUDE:

A) EARLY DEVELOPMENT OF POWER WHICH WOULD BE APPROPRIATE FOR
THE LOAD GROWTH OF PARTICULAR COUNTRY.
B) POSSSIBILITY OF TESTING WELLS FOR RESERVOIR ANALYSIS
WHILE PROVIDING POWER NEEDS FOR DEVELOPMENT.
C) SERVING AS BOTH AN OPERATOR-TRAINING FACILITY AND THE
NUCLEUS FOR AN EXPERIMENTAL STATION. A FURTHER ADVANTAGE IS
THAT THIS DESIGN NEEDS NO R&D EFFORTS SINCE COMPONENT MACHINERY
IS NOW COMMERCIALY AVAILABLE. A SHOP FABRICATED PLANT WOULD COST
\$375 PER KILOWATT AND COULD BE ASSEMBLED IN THE FIELD FROM 4
MODULES . COST INCLUDES ALL FACILITIES EXCEPT WELLS AND POWER
TRANSMISSION SYSTEM.

2. DR. JAMES BRESEE (USA) REFERRED TO THE WORKSHPS THREE PURPOSES
TO ACQUAINT DELEGATES WITH THE AZORES' GEOTHERMAL POTETIAL, TO STUDY
THE FEASIBILITY OF USING THE AZORES AS A "TEST CASE" WHERE A SMALL
POWER PLANT MIGHT OFFER SIGNIFICANT ADVANTAGES OF EARLY
DEVELGPMENT
AND TO DECIDE WHAT COUNTRIES, AS A GROUP, CAN DO TO SPEED
DEVELOPMENT
OF SMALL MODULAR GEOTHERMAL PLANTS.

3. DR. MENDES VICTOR (PORTUGAL) REVIEWED THE AZORES' GEOTHERMAL
POTENTIAL AND OTHER DELEGATES PRESENTED THEIR NATIONAL GEOTHERMAL
PROGRAMS. MR. KENTARO AIKAWA (JAPAN) DESCRIBED THE 1.3MW THE
UNCLASSIFIED

UNCLASSIFIED

PAGE 03 PONTA 00351 131753Z

3.0 MW PLANTS BUILT BY MITSUBISHI IN EL SAVADOR AND THE PHILIPINES, RESPECTIVELY. THE RESPECTIVE COST, \$250,000 AND \$400,000, DO NOT INCLUDE SEPARATOR, PIPING, OR INSTALLATION, SINCE THE UNIT IS PORTABLE. M. COULLOIS (FRANCE) DESCRIBED GEOTHERMAL PROGRAMS IN METROPOLITAN FRANCE AND ABROAD. SINCE THE ENERGY CRISIS, FRENCH POLICY HAS BEEN TO DEVELOP ALL POTENTIAL "EXOTIC" FUELS, AND TO THUS DECREASE DEPENDENCE ON IMPORTED FUEL. A GEOTHERMAL FACILITY AT MELUN IS ALREADY OPERATIONAL WITH ANOTHER UNDER CONSTRUCTION AT CREIL. THE OVERALL FRENCH TARGET IS TO PRODUCE 1,000,000 TONS OF OIL-EQUIVALENT (OF AN ANNUAL USE OF 140,000,00 TONS) BY 1985 IN THE METROPOLE. ABROAD, THE FRENCH BRGM HAS PROJECTS IN SOMALIA WHERE 200 DEGREES C WATER HAS BEEN PRODUCED AND THE RESERVOIR IDENTIFIED SURFACE PROSPECTING IDENTIFIED A SOURCE CURRENTLY BEING DEVELOPED FOR A 4 MW ELECTRICITY PLANT NEAR DJIBOUTI. ON GUADELOUPE BORE HOLE PRODUCING 200 TONS OF STEAM AND WATER PER HOUR HAS BEEN DRILLED AND A CAPACITY OF 2-4 MW IS ENVISIONED. PROJECTS ARE ALSO PLANNED FOR MARTINIQUE AND REUNION, BUT NO DRILLING HAS BEGUN. FRENCH GOVERNMENT AND INDUSTRY ARE CURRENTLY PURSUING FINANCING POSSIBILITIES IN THE NEW HEBRIDES WHERE PRELIMINARY WORK HAS BEGUN ON FILLING THE NEEDS OF LOCAL CONSUMPTION AND THE LOCAL METALLURGICAL

INDUSTRY ESTIMATED AT 70,000 MW. MR FITZ HORLICK (NICARAGUA) DESCRIBED HIS COUNTRY'S GEOTHERMAL POTENTIAL, ESTIMATED AT 2,285 MW. SITES ARE REMOTE FROM LOAD CENTERS, HOWEVER, AND CAPACITY WILL NOT INCREASE UNTIL 1982-83; UNTIL THEN NICARAGUA WILL REQUIRE OIL IMPORTS. EXPLORATION WORK HAS BEEN DONE ON TWO OUT OF TEN POSSIBLE SITES, AND TEMPERATURES OF 209 DEGREES C HAVE BEEN REGISTERED AT 200 METERS. SURFACE STUDIES AT ONE SITE SHOW A POTENTIAL AREA OF 10-15 KM² WITH RESERVOIR TEMPERATURES OF 230 TO 268 DEGREES C AS THE ESTIMATED FLOW OF WATER AND STEAM IS 670,000 LBS/HR.

MR. STJEPAN GALOVIC (YUGOSLAVIA) DESCRIBED HOT WATER PROSPECTING IN YUGOSLAVIA. SOURCES ARE UNFORTUNATELY NOT NEAR URBAN CENTERS AND CURRENTLY, GEOTHERMAL RESOURCES PROVIDE HEAT ONLY FOR GREENHOUSES AND RECREATIONAL FACILITIES. ALL FINANCIAL RISK HAS TO BE ASSUMED BY THE DRILLING COMPANY.

4. DR. GEORGES ZBYSZEWSKI OF THE PORTUGUESE GEOLOGICAL SURVEY CONDUCTED THE SECOND DAY'S TOUR OF GEOTHERMAL SITES IN EASTERN SAO MIGUEL, INCLUDING A HYDROELECTRIC PLANT, FURNAS HOT SPRINGS, PICO DO GASPAR, AND FURNAS LAKE. IN THE EVENING DELEGATES WERE

UNCLASSIFIED

NNN

*** Current Handling Restrictions *** n/a

*** Current Classification *** UNCLASSIFIED

Message Attributes

Automatic Decaptioning: X
Capture Date: 01 JAN 1994
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: GEOTHERMAL ENERGY, MEETING DELEGATIONS
Control Number: n/a
Copy: SINGLE
Draft Date: 12 SEP 1975
Decaption Date: 01 JAN 1960
Decaption Note:
Disposition Action: n/a
Disposition Approved on Date:
Disposition Authority: n/a
Disposition Case Number: n/a
Disposition Comment:
Disposition Date: 01 JAN 1960
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1975PONTA00351
Document Source: CORE
Document Unique ID: 00
Drafter: n/a
Enclosure: n/a
Executive Order: n/a
Errors: n/a
Film Number: D750318-0616
From: PONTA DELGADA
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1975/newtext/t19750997/aaaagxgz.tel
Line Count: 163
Locator: TEXT ON MICROFILM, TEXT ON-LINE
Office: ACTION EUR
Original Classification: UNCLASSIFIED
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 3
Previous Channel Indicators: n/a
Previous Classification: n/a
Previous Handling Restrictions: n/a
Reference: n/a
Review Action: RELEASED, APPROVED
Review Authority: RowellE0
Review Comment: n/a
Review Content Flags: ANOMALY
Review Date: 31 MAR 2003
Review Event:
Review Exemptions: n/a
Review History: RELEASED <31 MAR 2003 by MaustMC>; APPROVED <30 JAN 2004 by RowellE0>
Review Markings:

Margaret P. Grafeld
Declassified/Released
US Department of State
EO Systematic Review
06 JUL 2006

Review Media Identifier:
Review Referrals: n/a
Review Release Date: n/a
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
Secure: OPEN
Status: <DBA CORRECTED> gwr 971021
Subject: : CCMS; SMALL GEOTHERMAL POWER PLANTS WORKSHOP SAO MIGUEL, THE AZORES, SEPT. 8-11, 1975
TAGS: CCMS, ENRG, CCMS
To: STATE
Type: TE
Markings: Margaret P. Grafeld Declassified/Released US Department of State EO Systematic Review 06 JUL 2006